

Fig. 1 - Typical ITU G.983 Optical Distribution Network (ODN) Example for Which the Present Invention Tests While Transmission is In-Service Without Causing Damage to the Optical Transceivers

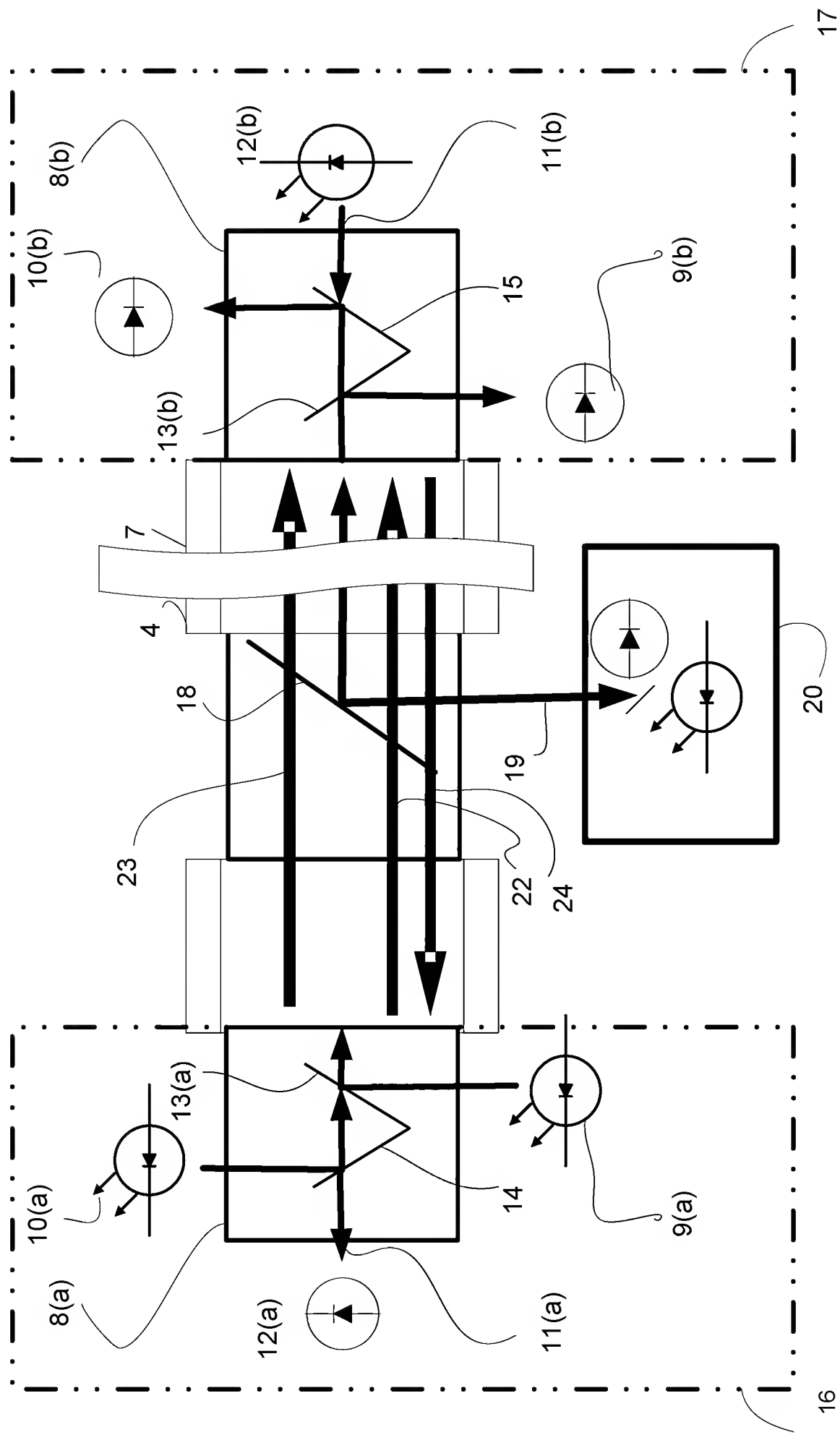
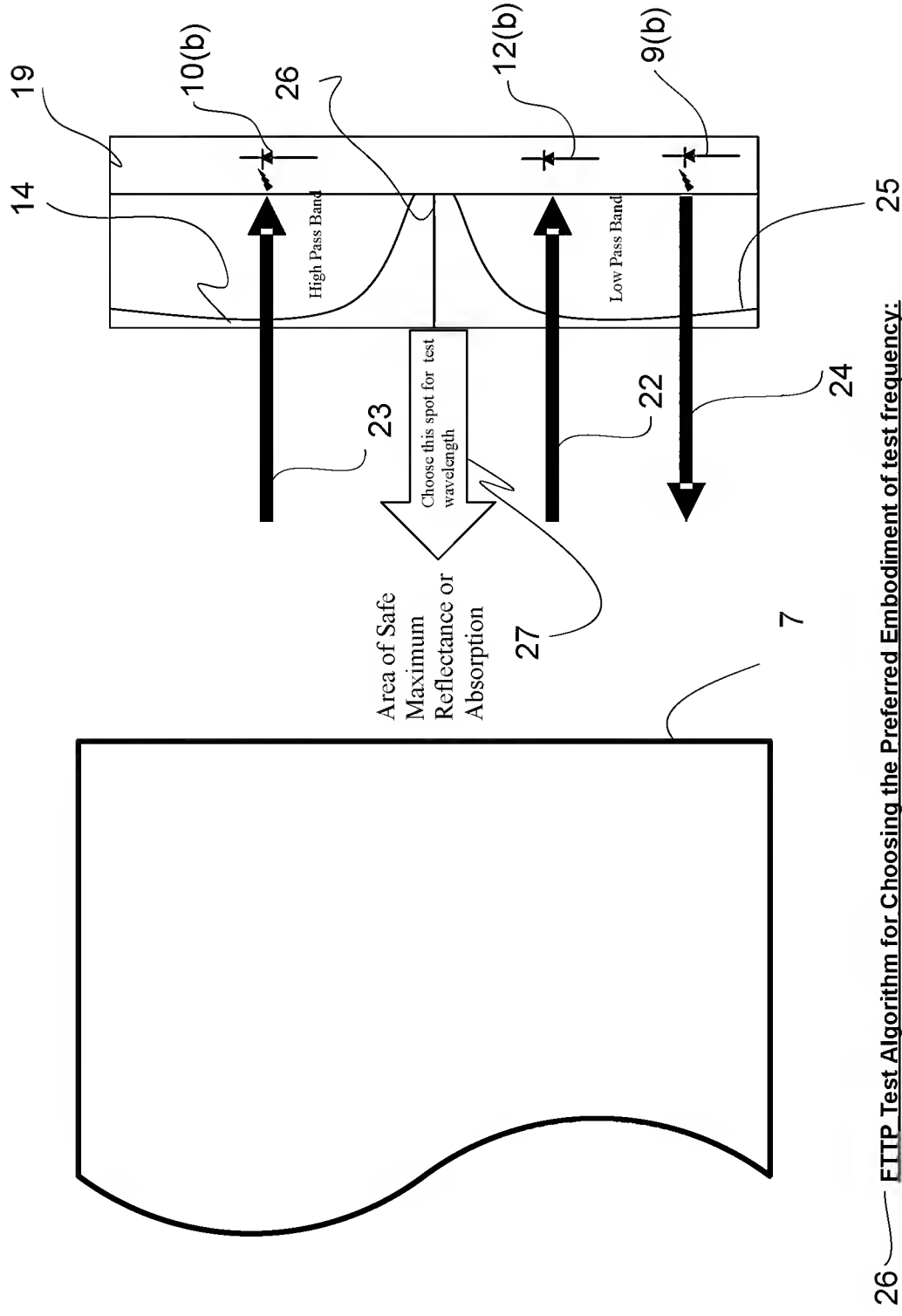


Fig. 2 - Optical Transmission Line (Prior Art) Shown to Illustrate The Present Inventions Novel FTTP Test Algorithm Which Will not Damage OLT, ONT and Video Transceivers



26 — **FTTP Test Algorithm for Choosing the Preferred Embodiment of test frequency:**

In the preferred embodiment of this invention the frequency return loss of the device under test is determined. The return loss characteristics are used as input to the "test frequency range selection algorithm". Filter characteristics may vary based on the specific application and system design frequencies. The present invention is not limited to a specific frequency as described in the preferred embodiment. The present invention uses the area of non-passband for the optical transceiver as the target for test signals from the OTDR. A single frequency or a range of frequencies are used for test purposes within the non-passband area.

**Fig. 3 - Application of The Preferred Embodiment of the Novel FTTP Test Algorithm of the Present Invention for Optical Test Interrogation of OLT, ONT and Video Transceivers**

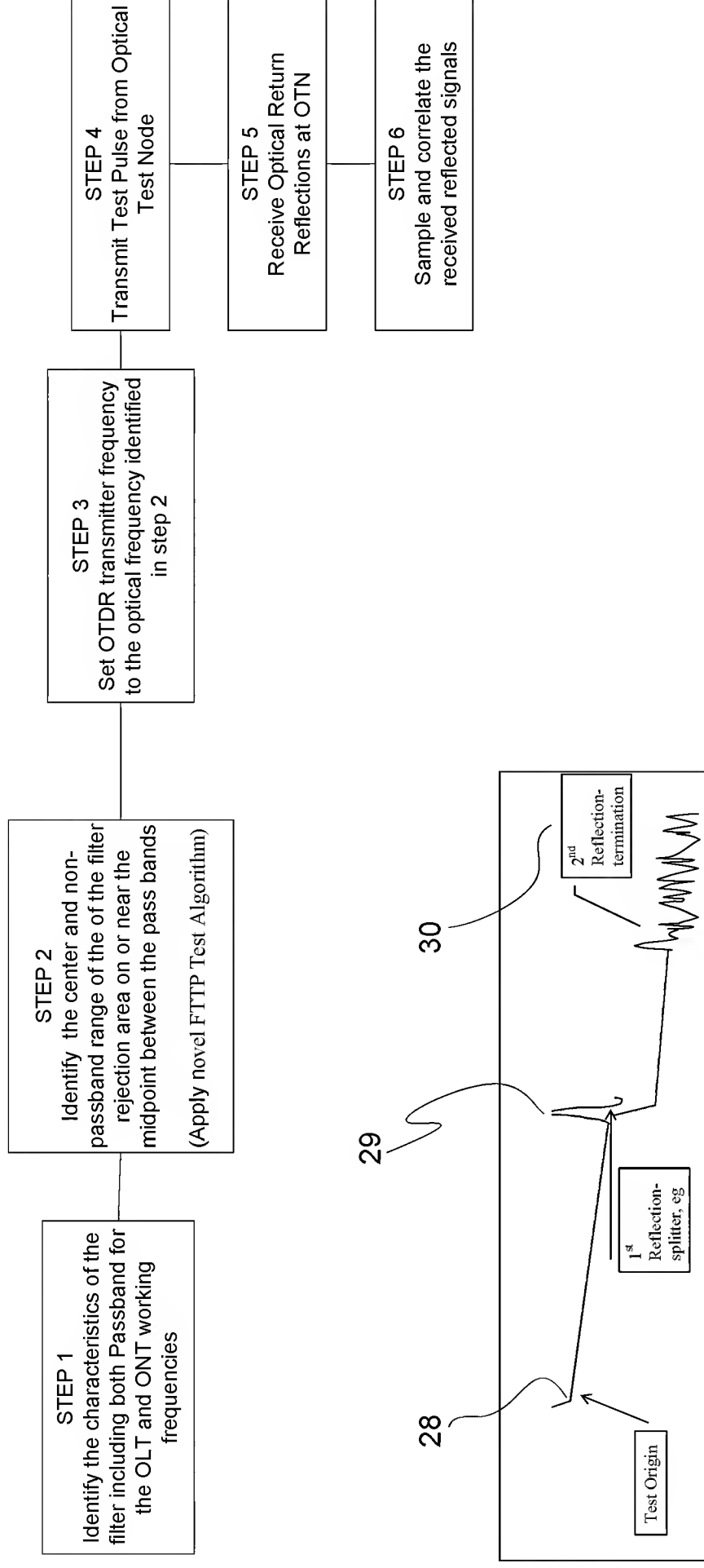


Fig. 4 - Step by Step Method to Use of The Novel FTTP Test Algorithm in the Preferred Embodiment of the Present Invention

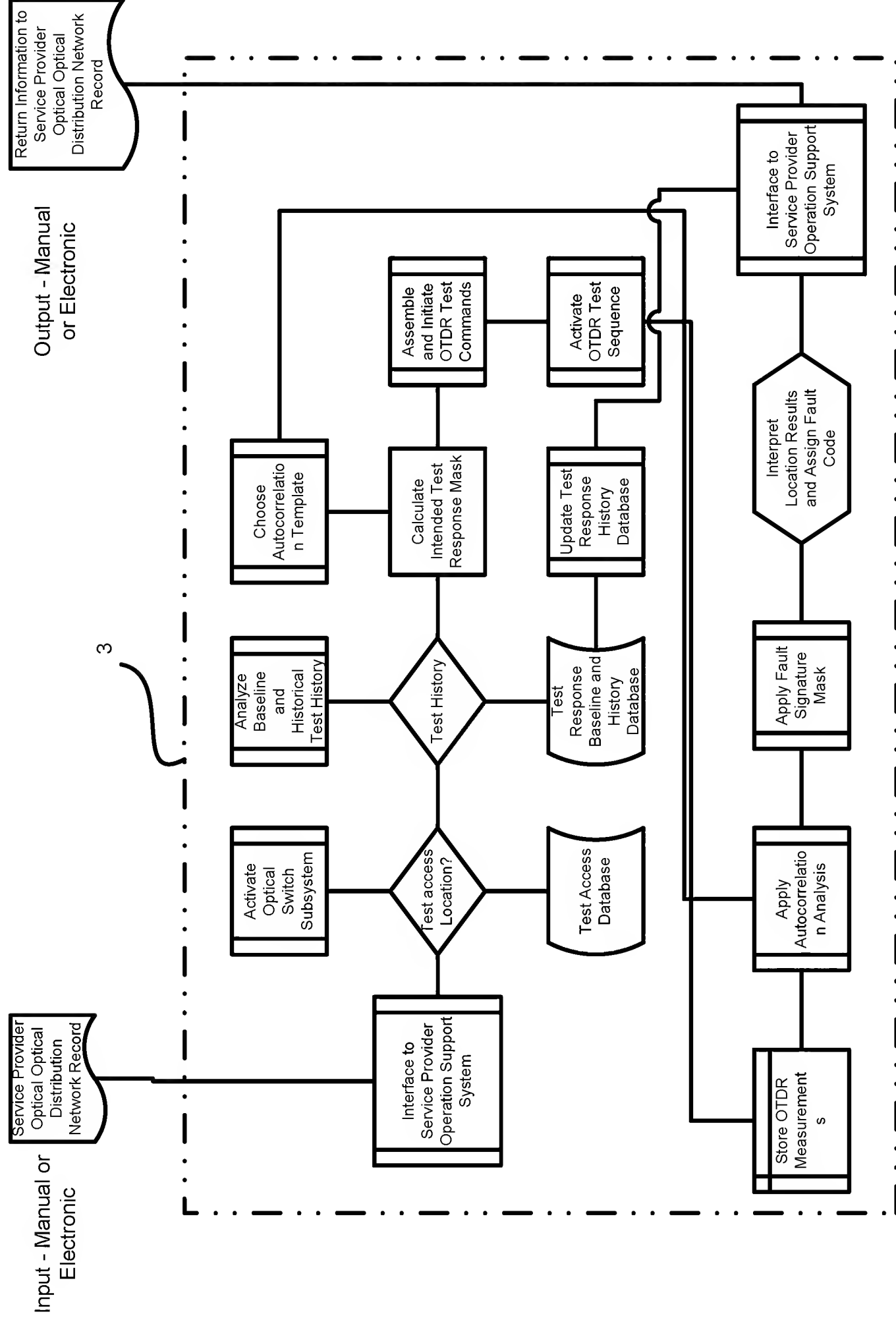


Fig. 5 - Preferred Embodiment of the Present Invention - Optical Test Node (OTN) Operational Sequence

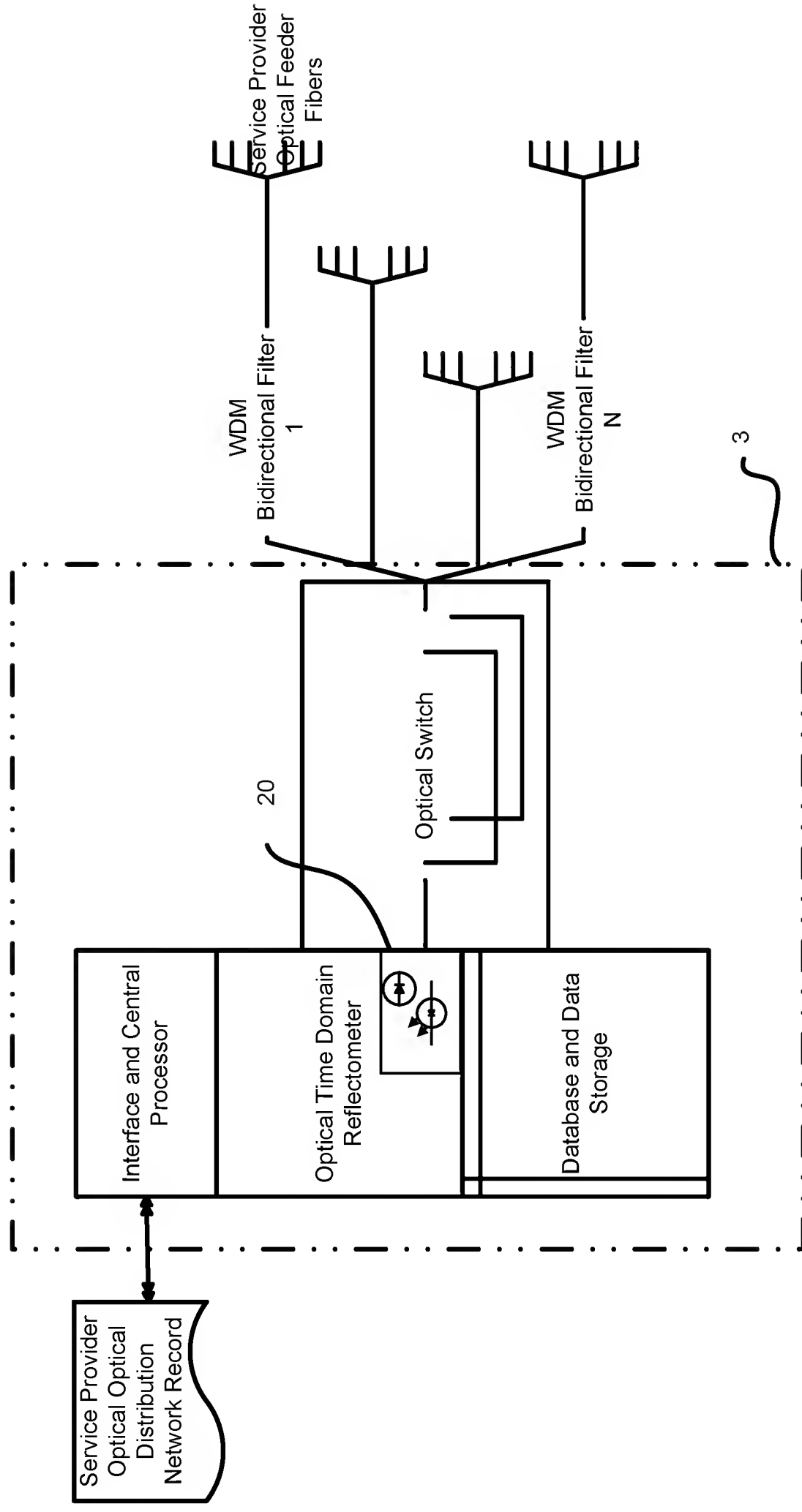


Fig. 6 - Preferred Embodiment of the Present Invention - Optical Test Node (OTN) Apparatus